

Thursday, May 07, 2015 3:07:11 PM

Page 1

Quality Control

Memo

13 Ø Jm15-5-11

13 ϕ JM15-5-11

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER :					

Work Order ID 132663

Thursday, May 07, 2015 3:07:11 PM

132663

Page 2

Item ID: D3414-041 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Lug
 Start Date: 5/7/2015 Start Qty: 8.00 ***8*** Cust Item ID:
 Required Date: 5/7/2015 Req'd Qty: 8.00 ***8*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC8- Inspect parts - second check	0.00							DAS 33 9-89
120						(13)			MAY 12 2015
QC	Memo	0.00							
Quality Control									
130		0.00							DAS 30 9-89
130						13			
Brake NC	Memo	0.00							
Brake NC	1-Deburr 2-Form using DT8254 as per Dwg D3414								
140		0.00							
140						13	15-5-27		DAS 50 9-89
Large Fab	Memo	0.03							
Large Fab	1- Weld using location Jig DT9625 as per Dwg D3414 A/R S.S. welding rod Batch: <u>M103903</u>								

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																		
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																		
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																		
Large Fab ☐	Composite ☐	Supplier ☐																			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval																	
Description Work Order Deviation			Disposition																		
						Completed By															
						Lead hand / Supervisor Approval Verification															
			QC / QA Coordinator Approval																		
Root Cause		FAULT CATEGORY																			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐																
OTHER : ☐																					

Work Order ID 132663

132663

Page 3

Thursday, May 07, 2015 3:07:11 PM

Item ID: D3414-041

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Lug

Start Date: 5/7/2015 Start Qty: 8.00

8

Cust Item ID:

Required Date: 5/7/2015 Req'd Qty: 8.00

8

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	QC9- Inspect visual per QSI004- Fusion Welds	0.00							DAS
150						(13)	15-05-29		9
QC	Memo	0.00							9-89
Quality Control									
160	QC5- Inspect part completeness to step on W/O	0.00							DAS
160						(13)	15-05-29		9
QC	Memo	0.00							9-89
Quality Control									
170	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							DAS
170	in 131545.					13	15-6-2		34
Powdercoat	Memo	0.00							9-89
Powder Coating	START TIME: 3:15. OVEN TEMPERATURE: 400° FINISH TIME: 3:45.								

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																																												
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																																																																																													
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																																																																																													
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																																																																																													
Large Fab ☐	Composite ☐	Supplier ☐																																																																																														
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval																																																																																												
Description Work Order Deviation		Disposition		Completed By																																																																																												
				Lead hand / Supervisor Approval Verification																																																																																												
				QC / QA Coordinator Approval																																																																																												
Root Cause <table style="width:100%; border: none;"> <tr> <td style="border: none;">Environment ☐</td> <td style="border: none;">No Re-verification ☐</td> <td style="border: none;">Pressure/Forced ☐</td> <td style="border: none;">Temperature/Cure ☐</td> <td style="border: none;">Power Loss/Surge ☐</td> <td style="border: none;">Positioned Wrong ☐</td> </tr> <tr> <td style="border: none;">Design ☐</td> <td style="border: none;">Operator ☐</td> <td style="border: none;">Bending ☐</td> <td style="border: none;">Set-up ☐</td> <td style="border: none;">Folio/Program ☐</td> <td style="border: none;">Outside Dimensions ☐</td> </tr> <tr> <td style="border: none;">Doc/Data ☐</td> <td style="border: none;">Offset/Setup ☐</td> <td style="border: none;">Centre Not Concentric ☐</td> <td style="border: none;">BOM/Route ☐</td> <td style="border: none;">Grain ☐</td> <td style="border: none;">Over/Under tolerance ☐</td> </tr> <tr> <td style="border: none;">Equip/Tooling ☐</td> <td style="border: none;">Supplier ☐</td> <td style="border: none;">Cracks ☐</td> <td style="border: none;">Broken/Damage/Defect ☐</td> <td style="border: none;">Weld ☐</td> <td style="border: none;">Part Incorrect ☐</td> </tr> <tr> <td style="border: none;">Handling/Pre ☐</td> <td style="border: none;">Training ☐</td> <td style="border: none;">Crimp/Kink/Ripple/Wave ☐</td> <td style="border: none;">Inspection Incomplete/Unqualified ☐</td> <td style="border: none;">Wrong Stock Pulled ☐</td> <td style="border: none;">Part Lost/Missing ☐</td> </tr> <tr> <td style="border: none;">Material ☐</td> <td style="border: none;">Use for Testing ☐</td> <td style="border: none;">Cuffs ☐</td> <td style="border: none;">Contamination ☐</td> <td style="border: none;">Out of Sequence ☐</td> <td style="border: none;">Part Moved ☐</td> </tr> <tr> <td style="border: none;">Internal Transport ☐</td> <td style="border: none;">Poor Information ☐</td> <td style="border: none;">Crushing ☐</td> <td style="border: none;">Countersink ☐</td> <td style="border: none;">Off-set ☐</td> <td style="border: none;">Drawing ☐</td> </tr> <tr> <td style="border: none;">Tribal Knowledge ☐</td> <td style="border: none;">Rushing ☐</td> <td style="border: none;">Heat Treat ☐</td> <td style="border: none;">Cut Too Short ☐</td> <td style="border: none;">Mislabeled ☐</td> <td style="border: none;">Finish ☐</td> </tr> <tr> <td style="border: none;">LOA ☐</td> <td style="border: none;">Product Improvement ☐</td> <td style="border: none;">Wave/Twist in Tube ☐</td> <td style="border: none;">Instructions Incomplete/Unclear ☐</td> <td style="border: none;">Fit/Function ☐</td> <td style="border: none;">Misread ☐</td> </tr> <tr> <td style="border: none;">Substation ☐</td> <td style="border: none;">Process Improvement ☐</td> <td style="border: none;">Marks/Chatter ☐</td> <td style="border: none;">Drill Holes ☐</td> <td style="border: none;">Misaligned/off center ☐</td> <td style="border: none;">Turning Sequence ☐</td> </tr> <tr> <td style="border: none;">Past Expiry Date ☐</td> <td style="border: none;">Manufacturing Process ☐</td> <td colspan="4"></td> </tr> <tr> <td style="border: none;">Misidentified ☐</td> <td style="border: none;">Past Due ☐</td> <td colspan="4"></td> </tr> </table>		Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐					Misidentified ☐	Past Due ☐					FAULT CATEGORY <table style="width:100%; border: none;"> <tr> <td style="border: none;">Power Loss/Surge ☐</td> <td style="border: none;">Positioned Wrong ☐</td> </tr> <tr> <td style="border: none;">Folio/Program ☐</td> <td style="border: none;">Outside Dimensions ☐</td> </tr> <tr> <td style="border: none;">Grain ☐</td> <td style="border: none;">Over/Under tolerance ☐</td> </tr> <tr> <td style="border: none;">Weld ☐</td> <td style="border: none;">Part Incorrect ☐</td> </tr> <tr> <td style="border: none;">Wrong Stock Pulled ☐</td> <td style="border: none;">Part Lost/Missing ☐</td> </tr> <tr> <td style="border: none;">Out of Sequence ☐</td> <td style="border: none;">Part Moved ☐</td> </tr> <tr> <td style="border: none;">Off-set ☐</td> <td style="border: none;">Drawing ☐</td> </tr> <tr> <td style="border: none;">Mislabeled ☐</td> <td style="border: none;">Finish ☐</td> </tr> <tr> <td style="border: none;">Fit/Function ☐</td> <td style="border: none;">Misread ☐</td> </tr> <tr> <td style="border: none;">Misaligned/off center ☐</td> <td style="border: none;">Turning Sequence ☐</td> </tr> </table>			Power Loss/Surge ☐	Positioned Wrong ☐	Folio/Program ☐	Outside Dimensions ☐	Grain ☐	Over/Under tolerance ☐	Weld ☐	Part Incorrect ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Out of Sequence ☐	Part Moved ☐	Off-set ☐	Drawing ☐	Mislabeled ☐	Finish ☐	Fit/Function ☐	Misread ☐	Misaligned/off center ☐	Turning Sequence ☐
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐																																																																																											
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐																																																																																											
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐																																																																																											
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐																																																																																											
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐																																																																																											
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐																																																																																											
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐																																																																																											
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐																																																																																											
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐																																																																																											
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐																																																																																											
Past Expiry Date ☐	Manufacturing Process ☐																																																																																															
Misidentified ☐	Past Due ☐																																																																																															
Power Loss/Surge ☐	Positioned Wrong ☐																																																																																															
Folio/Program ☐	Outside Dimensions ☐																																																																																															
Grain ☐	Over/Under tolerance ☐																																																																																															
Weld ☐	Part Incorrect ☐																																																																																															
Wrong Stock Pulled ☐	Part Lost/Missing ☐																																																																																															
Out of Sequence ☐	Part Moved ☐																																																																																															
Off-set ☐	Drawing ☐																																																																																															
Mislabeled ☐	Finish ☐																																																																																															
Fit/Function ☐	Misread ☐																																																																																															
Misaligned/off center ☐	Turning Sequence ☐																																																																																															
OTHER : _____																																																																																																

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																		
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																		
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																		
Large Fab ☐	Composite ☐	Supplier ☐																			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval																	
Description Work Order Deviation			Disposition																		
			Completed By																		
			Lead hand / Supervisor Approval Verification																		
			QC / QA Coordinator Approval																		
<table style="width:100%; border: none;"> <tr> <td style="width:25%; vertical-align: top;"> Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ </td> <td style="width:25%; vertical-align: top;"> No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐ </td> <td style="width:25%; vertical-align: top;"> Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ </td> <td style="width:25%; vertical-align: top;"> FAULT CATEGORY Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ </td> <td style="width:25%; vertical-align: top;"> Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ </td> <td style="width:25%; vertical-align: top;"> Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐ </td> </tr> </table>						Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	FAULT CATEGORY Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐										
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	FAULT CATEGORY Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐																
OTHER : ☐																					

Picklist Print

Thursday, May 07, 2015 3:07:14 PM

Page 1

Work Order ID: 132663

132663

Parent Item: D3414-041

D3414-041

Parent Item Name: Lug

Start Date: 5/7/2015

Required Date: 5/7/2015

Start Qty: 8.00

Required Qty: 8.00

Comments: IPP A05.09.13New issueKJ/JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

M304S12GA

Purchased

No

100

sf

79.2313

0.155

2

M304S12GA

304/316 0.100" Sheet

**

Jm15-5-11

Location

Loc Qty

Loc Code

MAT019

79.2313

m131322

79.2313

131322

D3414-3

Manufactured

No

140

Each

54.0000

1

8

D3414-3

Lug

**

15-5-27

Location

Loc Qty

Loc Code

WA001

54

129150

14

131756

40

13

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

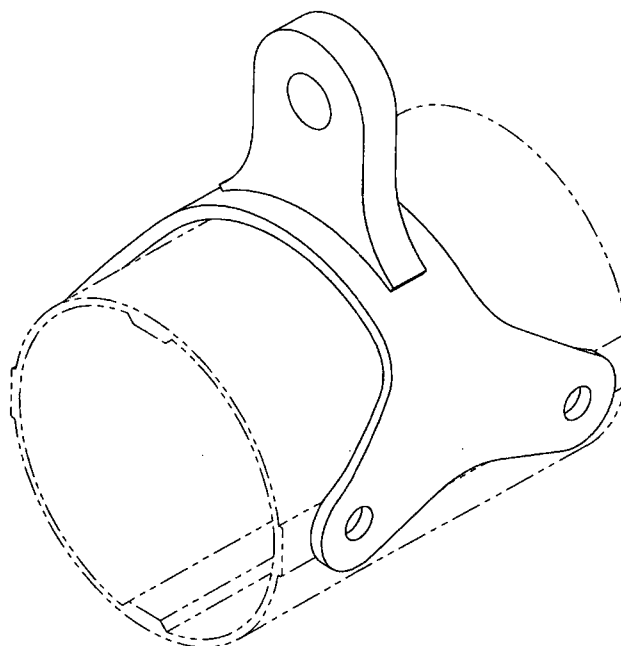
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																		
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																																																																			
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																																																																			
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																																																																			
Large Fab ☐	Composite ☐	Supplier ☐																																																																				
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval																																																																		
Description Work Order Deviation		Disposition		Completed By																																																																		
				Lead hand / Supervisor Approval Verification																																																																		
				QC / QA Coordinator Approval																																																																		
Root Cause		FAULT CATEGORY																																																																				
<table style="width:100%; border: none;"> <tr><td style="border: none;">Environment ☐</td><td style="border: none;">No Re-verification ☐</td></tr> <tr><td style="border: none;">Design ☐</td><td style="border: none;">Operator ☐</td></tr> <tr><td style="border: none;">Doc/Data ☐</td><td style="border: none;">Offset/Setup ☐</td></tr> <tr><td style="border: none;">Equip/Tooling ☐</td><td style="border: none;">Supplier ☐</td></tr> <tr><td style="border: none;">Handling/Pre ☐</td><td style="border: none;">Training ☐</td></tr> <tr><td style="border: none;">Material ☐</td><td style="border: none;">Use for Testing ☐</td></tr> <tr><td style="border: none;">Internal Transport ☐</td><td style="border: none;">Poor Information ☐</td></tr> <tr><td style="border: none;">Tribal Knowledge ☐</td><td style="border: none;">Rushing ☐</td></tr> <tr><td style="border: none;">LOA ☐</td><td style="border: none;">Product Improvement ☐</td></tr> <tr><td style="border: none;">Substation ☐</td><td style="border: none;">Process Improvement ☐</td></tr> <tr><td style="border: none;">Past Expiry Date ☐</td><td style="border: none;">Manufacturing Process ☐</td></tr> <tr><td style="border: none;">Misidentified ☐</td><td style="border: none;">Past Due ☐</td></tr> </table>	Environment ☐	No Re-verification ☐	Design ☐	Operator ☐	Doc/Data ☐	Offset/Setup ☐	Equip/Tooling ☐	Supplier ☐	Handling/Pre ☐	Training ☐	Material ☐	Use for Testing ☐	Internal Transport ☐	Poor Information ☐	Tribal Knowledge ☐	Rushing ☐	LOA ☐	Product Improvement ☐	Substation ☐	Process Improvement ☐	Past Expiry Date ☐	Manufacturing Process ☐	Misidentified ☐	Past Due ☐	<table style="width:100%; border: none;"> <tr><td style="border: none;">☐ Pressure/Forced</td></tr> <tr><td style="border: none;">☐ Bending</td></tr> <tr><td style="border: none;">☐ Centre Not Concentric</td></tr> <tr><td style="border: none;">☐ Cracks</td></tr> <tr><td style="border: none;">☐ Crimp/Kink/Ripple/Wave</td></tr> <tr><td style="border: none;">☐ Cuffs</td></tr> <tr><td style="border: none;">☐ Crushing</td></tr> <tr><td style="border: none;">☐ Heat Treat</td></tr> <tr><td style="border: none;">☐ Wave/Twist in Tube</td></tr> <tr><td style="border: none;">☐ Marks/Chatter</td></tr> </table>	☐ Pressure/Forced	☐ Bending	☐ Centre Not Concentric	☐ Cracks	☐ Crimp/Kink/Ripple/Wave	☐ Cuffs	☐ Crushing	☐ Heat Treat	☐ Wave/Twist in Tube	☐ Marks/Chatter	<table style="width:100%; border: none;"> <tr><td style="border: none;">☐ Temperature/Cure</td></tr> <tr><td style="border: none;">☐ Set-up</td></tr> <tr><td style="border: none;">☐ BOM/Route</td></tr> <tr><td style="border: none;">☐ Broken/Damage/Defect</td></tr> <tr><td style="border: none;">☐ Inspection Incomplete/Unqualified</td></tr> <tr><td style="border: none;">☐ Contamination</td></tr> <tr><td style="border: none;">☐ Countersink</td></tr> <tr><td style="border: none;">☐ Cut Too Short</td></tr> <tr><td style="border: none;">☐ Instructions Incomplete/Unclear</td></tr> <tr><td style="border: none;">☐ Drill Holes</td></tr> </table>			☐ Temperature/Cure	☐ Set-up	☐ BOM/Route	☐ Broken/Damage/Defect	☐ Inspection Incomplete/Unqualified	☐ Contamination	☐ Countersink	☐ Cut Too Short	☐ Instructions Incomplete/Unclear	☐ Drill Holes	<table style="width:100%; border: none;"> <tr><td style="border: none;">☐ Power Loss/Surge</td></tr> <tr><td style="border: none;">☐ Folio/Program</td></tr> <tr><td style="border: none;">☐ Grain</td></tr> <tr><td style="border: none;">☐ Weld</td></tr> <tr><td style="border: none;">☐ Wrong Stock Pulled</td></tr> <tr><td style="border: none;">☐ Out of Sequence</td></tr> <tr><td style="border: none;">☐ Off-set</td></tr> <tr><td style="border: none;">☐ Misabeled</td></tr> <tr><td style="border: none;">☐ Fit/Function</td></tr> <tr><td style="border: none;">☐ Misaligned/off center</td></tr> </table>	☐ Power Loss/Surge	☐ Folio/Program	☐ Grain	☐ Weld	☐ Wrong Stock Pulled	☐ Out of Sequence	☐ Off-set	☐ Misabeled	☐ Fit/Function	☐ Misaligned/off center	<table style="width:100%; border: none;"> <tr><td style="border: none;">☐ Positioned Wrong</td></tr> <tr><td style="border: none;">☐ Outside Dimensions</td></tr> <tr><td style="border: none;">☐ Over/Under tolerance</td></tr> <tr><td style="border: none;">☐ Part Incorrect</td></tr> <tr><td style="border: none;">☐ Part Lost/Missing</td></tr> <tr><td style="border: none;">☐ Part Moved</td></tr> <tr><td style="border: none;">☐ Drawing</td></tr> <tr><td style="border: none;">☐ Finish</td></tr> <tr><td style="border: none;">☐ Misread</td></tr> <tr><td style="border: none;">☐ Turning Sequence</td></tr> </table>	☐ Positioned Wrong	☐ Outside Dimensions	☐ Over/Under tolerance	☐ Part Incorrect	☐ Part Lost/Missing	☐ Part Moved	☐ Drawing	☐ Finish	☐ Misread	☐ Turning Sequence
Environment ☐	No Re-verification ☐																																																																					
Design ☐	Operator ☐																																																																					
Doc/Data ☐	Offset/Setup ☐																																																																					
Equip/Tooling ☐	Supplier ☐																																																																					
Handling/Pre ☐	Training ☐																																																																					
Material ☐	Use for Testing ☐																																																																					
Internal Transport ☐	Poor Information ☐																																																																					
Tribal Knowledge ☐	Rushing ☐																																																																					
LOA ☐	Product Improvement ☐																																																																					
Substation ☐	Process Improvement ☐																																																																					
Past Expiry Date ☐	Manufacturing Process ☐																																																																					
Misidentified ☐	Past Due ☐																																																																					
☐ Pressure/Forced																																																																						
☐ Bending																																																																						
☐ Centre Not Concentric																																																																						
☐ Cracks																																																																						
☐ Crimp/Kink/Ripple/Wave																																																																						
☐ Cuffs																																																																						
☐ Crushing																																																																						
☐ Heat Treat																																																																						
☐ Wave/Twist in Tube																																																																						
☐ Marks/Chatter																																																																						
☐ Temperature/Cure																																																																						
☐ Set-up																																																																						
☐ BOM/Route																																																																						
☐ Broken/Damage/Defect																																																																						
☐ Inspection Incomplete/Unqualified																																																																						
☐ Contamination																																																																						
☐ Countersink																																																																						
☐ Cut Too Short																																																																						
☐ Instructions Incomplete/Unclear																																																																						
☐ Drill Holes																																																																						
☐ Power Loss/Surge																																																																						
☐ Folio/Program																																																																						
☐ Grain																																																																						
☐ Weld																																																																						
☐ Wrong Stock Pulled																																																																						
☐ Out of Sequence																																																																						
☐ Off-set																																																																						
☐ Misabeled																																																																						
☐ Fit/Function																																																																						
☐ Misaligned/off center																																																																						
☐ Positioned Wrong																																																																						
☐ Outside Dimensions																																																																						
☐ Over/Under tolerance																																																																						
☐ Part Incorrect																																																																						
☐ Part Lost/Missing																																																																						
☐ Part Moved																																																																						
☐ Drawing																																																																						
☐ Finish																																																																						
☐ Misread																																																																						
☐ Turning Sequence																																																																						
OTHER : _____																																																																						

ITEM No.	QTY. -041	PART NUMBER	DESCRIPTION
1	X	D3414-041	LUG ASSEMBLY
2	1	D3414-1	LUG BRACKET
3	1	D3414-3	LUG

132663



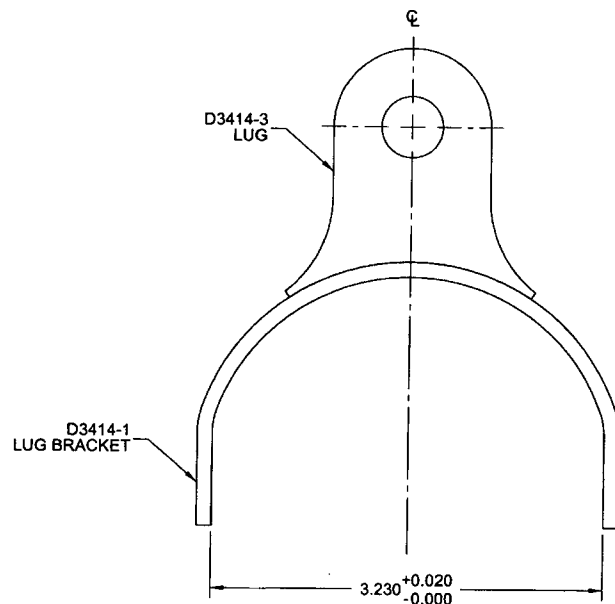
D3414-041 LUG ASSEMBLY

RELEASED
09/06/17

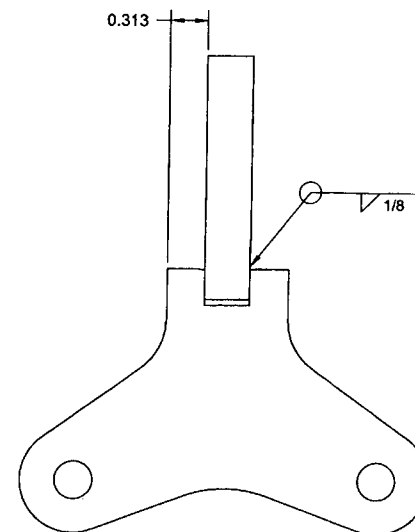
C	BREAK SHARP EDGES FOR -3 NOW 0.030-0.060 WAS 0.010-0.030 (ZN A7-3)	CP	09.06.17
B	DRAWING REDRAWN IN SOLIDWORKS WITH CURRENT STANDARDS AND TRANSFERRED TO "B" SIZE BORDER. FLAT PATTERN FOR -1 INCREASED IN LENGTH TO PREVENT FOULING AT INSTL (SEE PART198). FLAT SPOTS REMOVED FROM -1 (PART NOW "U" SHAPED) FOR EASE OF MANUFACTURE. B7-3 ADDED TOLERANCE TO 3.230 DIM. C2-3 1.12 DIM WAS 1.20.	AJS	08.09.23
A	NEW ISSUE	CP	05.03.16
REV.	DESCRIPTION	BY	DATE
DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D3414 REV. C LUG ASSEMBLY SCALE NTS COPYRIGHT © 2005 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	
DRAWN	CP		
CHECKED	CP		
MFG. APPR.	CP		
APPROVED	CP		
DE APPR.	CP		
DATE	09.06.17		

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT WHITE (4.3.5.2) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3414-041" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: 0.52 lbs

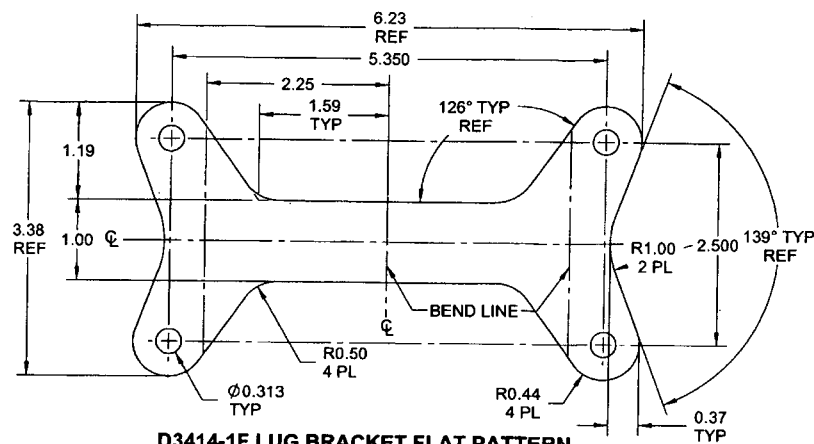


D3414-041 LUG ASSEMBLY

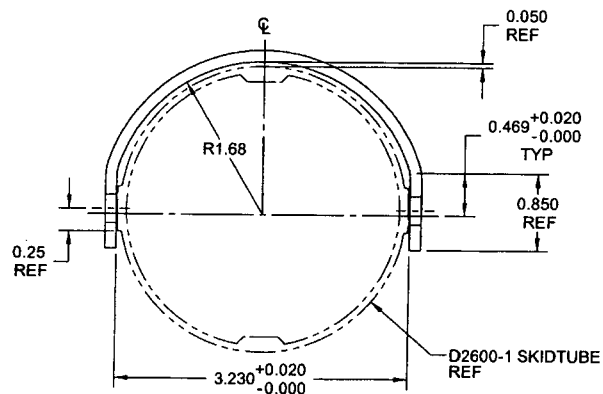


RELEASED
09/06/17

DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	CP		
CHECKED	ED	DRAWING NO. D3414	REV. C
MFG. APPR.	ED	SHEET 2 OF 3	
APPROVED	ED	TITLE	SCALE
DE APPR.	ED	LUG ASSEMBLY	NTS
DATE	09.06.17	COPYRIGHT © 2005 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



D3414-1F LUG BRACKET FLAT PATTERN



D3414-1 LUG BRACKET

NOTES:

1) MATERIAL: -1: AISI 304/316 STAINLESS STEEL SHEET, 12 GAUGE (0.100 THICK)
PER MIL-S-5059 (ANNEALED) 2B FINISH OR AMS 5513/5524
REF. DART SPEC. M304S12GA

-3: AISI 304/316 STAINLESS STEEL PLATE
PER MIL-S-5059 (ANNEALED) 2B FINISH OR AMS 5513/5524
REF. DART SPEC. M304S

2) FINISH: N/A

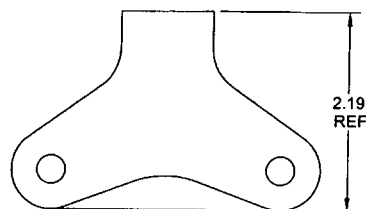
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED

4) UNITS: INCHES UNLESS OTHERWISE NOTED

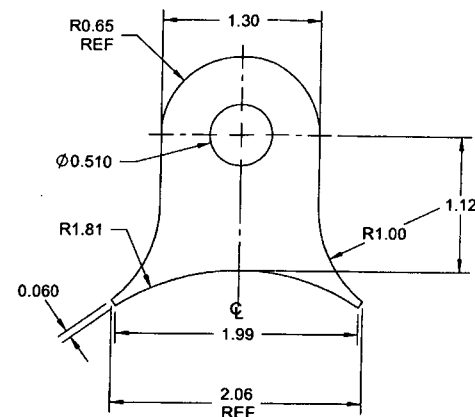
5) BREAK SHARP EDGES: -1: 0.010 TO 0.020 MAX
-3: 0.030 TO 0.060 MAX

6) IDENTIFICATION: N/A

7) WEIGHT: N/A



SIDE VIEW FOR REF ONLY



D3414-3 LUG

RELEASED

DESIGN	CP	DART AEROSPACE LTD	
DRAWN	CP	HAWKESBURY, ONTARIO, CANADA	
CHECKED	CP	DRAWING NO.	REV. C
MFG. APPR.	CP	D3414	SHEET 3 OF 3
APPROVED	CP	TITLE	SCALE
DE APPR.	CP	LUG ASSEMBLY	NTS
DATE	09.06.17	COPYRIGHT © 2005 BY DART AEROSPACE LTD	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			